

# Notice of Allowability

Application No.

10/693,276

Examiner

Rodney G. McDonald

Applicant(s)

PINARBASI, MUSTAFA

Art Unit

1753

## -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Request for Continued Examination filed January 9, 2007.
2. ☒ The allowed claim(s) is/are 1-15.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All b) ☐ Some\* c) ☐ None of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.


Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
  - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
    - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
  - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

### Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date \_\_\_\_\_
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_

  
RODNEY G. McDONALD  
PRIMARY EXAMINER

### REASONS FOR ALLOWANCE

The following is an examiner's statement of reasons for allowance:

Claims 1, 6-8, 10 and 13 are allowable over the prior art of record because the prior art of record does not teach the claimed subject matter including exposing at least the first surface to an oxygen partial pressure for causing oxygen to become physisorbed onto at least the first surface for forming an oxygen treated surface having a surface roughness, then decreasing the oxygen partial pressure before depositing a subsequent layer onto the oxygen treated surface having reduced surface roughness.

Claims 2-5, 11, 12 and 14 are allowable over the prior art of record because the prior art of record does not teach the claimed subject matter including exposing one or more of the first and second surfaces to an oxygen partial pressure for causing oxygen to become physisorbed onto at least one of the first and second surfaces for forming at least one of a first oxygen treated surface having a reduced surface roughness and a second oxygen treated surface having a reduced surface roughness, then decreasing the oxygen partial pressure before depositing a subsequent layer onto the at least one of the first and second oxygen treated surfaces having reduced surface roughness, wherein one or more of the first and second surfaces are exposed to an oxygen partial pressure of between  $1 \times 10^{-7}$  Torr and about  $5 \times 10^{-5}$  Torr.

Claims 9 and 15 are allowable over the prior art of record because the prior art of record does not teach the claimed subject matter including exposing the first surface to an oxygen partial pressure for causing oxygen to become physisorbed onto the first surface for forming a first oxygen treated surface having a reduced surface roughness

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relative to the first surface prior to exposure to the oxygen, then decreasing the oxygen partial pressure before depositing a subsequent layer onto the first oxygen treated surface having reduced surface roughness; depositing a spacer layer above the first surface, the spacer layer having a second surface; exposing the second surface to an oxygen partial pressure for causing oxygen to become physisorbed onto the second surface for forming a second oxygen treated surface having a reduced surface roughness relative to the second surface prior to exposure to the oxygen, then decreasing the oxygen partial pressure before depositing a subsequent layer onto the second oxygen treated surface having reduced surface roughness.

The closest prior art of record fails to disclose the claimed method where oxygen is physisorbed in order to produce the reduced surface roughness in the layers.

Kamiguchi et al. (U.S. Pat. 6,303,218) now cited of record shows at Column 22 lines 35-44 that natural, thermal or plasma oxidation, which is similar to the applied reference Sato et al. (U.S. Pat. 5,986,858), will increase the surface roughness of films which is opposite to what Applicant's claims achieve and Applicant has argued such.

Furthermore, Kamiguchi et al. utilize oxygen radicals to achieve a surface smoothness. However, the Kamiguchi et al. reference would not be applicable under 35 U.S.C. 102 since Applicant has provided an affidavit on May 12, 2006, which antedates Kamiguchi et al. (U.S. Pat. 6,303,218).

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably


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accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rodney G. McDonald whose telephone number is 571-272-1340. The examiner can normally be reached on M- Th with Every other Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nam X. Nguyen can be reached on 571-272-1342. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Rodney G. McDonald  
Primary Examiner  
Art Unit 1753

RM  
February 12, 2007